

CLAIMS

I claim:

1. A method for forming a non-sag molybdenum-lanthana alloy comprising:

(a) forming a sintered body of a molybdenum-lanthana alloy wherein the alloy contains from about 0.1 weight percent to about 5 weight percent lanthana;

(b) mechanically working the sintered body to a near-finished form;

(c) recrystallizing the sintered body in its near-finished form;

(d) mechanically deforming the sintered body to a finished form wherein the degree of deformation is from about 7% to about 18%; and

(e) subjecting the sintered body in its finished form to a final recrystallization annealing.

2. The method of claim 1 wherein the degree of deformation is from about 12% to about 17%.

3. The method of claim 1 wherein the final recrystallization annealing is performed at about 1900°C.

4. The method of claim 1 wherein the sintered body in its near-finished form is recrystallized at a temperature from about 1150°C to about 1400°C.

5. The method of claim 1 wherein the molybdenum-lanthana alloy contains from about 0.4 weight percent to about 1.0 weight percent lanthana.

6. The method of claim 1 wherein the sintered body is subjected to one or more heat treatments during the mechanical working in step (b).

7. The method of claim 3 wherein the molybdenum-lanthana alloy contains from about 0.6 weight percent to about 0.7 weight percent lanthana.

8. A method for forming a non-sag molybdenum-lanthana alloy comprising:

(a) forming a sintered body of a molybdenum-lanthana alloy wherein the alloy contains from about 0.4 weight percent to about 1.0 weight percent lanthana;

(b) mechanically working the sintered body to a near-finished form;

(c) recrystallizing the sintered body in its near-finished form at a temperature from about 1150°C to about 1400°C;

(d) mechanically deforming the sintered body to a finished form wherein the degree of deformation is from about 7% to about 18%; and

(e) subjecting the sintered body in its finished form to a final recrystallization annealing at a temperature of about 1900°C.

9. The method of claim 8 wherein the degree of deformation is from about 12% to about 17%.

10. The method of claim 8 wherein the molybdenum-lanthana alloy contains from about 0.6 weight percent to about 0.7 weight percent lanthana.

11. A method for forming a non-sag molybdenum-lanthana alloy comprising:

(a) forming a sintered body of a molybdenum-lanthana alloy wherein the alloy contains from about 0.1 weight percent to about 5 weight percent lanthana;

(b) mechanically deforming the sintered body to a finished form wherein the degree of deformation is from about 7% to about 18%; and

(c) subjecting the sintered body in its finished form to a final recrystallization annealing.

12. The method of claim 11 wherein the degree of deformation is from about 12% to about 17%.

13. The method of claim 11 wherein the final recrystallization annealing is performed at about 1900°C.

14. The method of claim 11 wherein the molybdenum-lanthana alloy contains from about 0.4 weight percent to about 1.0 weight percent lanthana.

15. The method of claim 11 wherein the molybdenum-lanthana alloy contains from about 0.6 weight percent to about 0.7 weight percent lanthana.

16. The method of claim 13 wherein the degree of deformation is from about 12% to about 17%.

17. The method of claim 16 wherein the molybdenum-lanthana alloy contains from about 0.6 weight percent to about 0.7 weight percent lanthana.